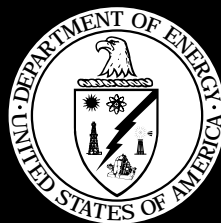


# The Standards

News on the DOE Technical Standards Program



## Forum

Volume 4, Number 3 - December 1996



### An Electronic Shopping Mall for Standards

Finding the set of standards that can be used to determine the optimum process or method for accomplishing a component or system design, construction activity, safety study, procurement, or facility operation can mean a mountain of paperwork and untold hours of employee time to do the document research which, in essence, contributes almost nothing to the company "bottom line." Well, someone has finally come up with a product that can reduce that search time to a minimum. The product is the National Standards Systems Network (NSSN) under development by the Systems and Data Services Committee (SDSC) of the American National Standards Institute (ANSI). The SDSC has been meeting for about three years to develop the design and system implementation requirements for an on-line network intended to help industry, standards developing organizations, universities, government, and others find the standards they need to compete in the global marketplace.

Sponsored by ANSI and the National Institute of Standards and Technology (NIST), NSSN will make what is already the most effective and efficient voluntary standardization system in the world even more effective and efficient, and will benefit both suppliers and users of standards information. Users will be able to search the databases of hundreds of organizations at once to find all applicable standards and related information in minutes, as well as develop or comment on standards on-line. At the same time, standards developers will be able to make their standards accessible to a much broader market.

NSSN developers have spent the past year researching and analyzing the needs of potential users. Currently, a test bed at NIST (<http://dsys.ncsl.nist.gov/nssn/>) provides the ability to test the basic NSSN functions of access, document search, and browsing. A production version of NSSN should be available to users by late 1996 or early 1997. NSSN will link service providers, government, standards developers, standards organizations, and national and international users through a network interface to the Internet and to the NSSN. Using a World Wide Web browser and virtually any PC running DOS, Windows, Mac OS, UNIX, or OS/2, users will be able to search abstracts, titles, catalogs, indexes, and documents by keywords, titles, topics, field(s) of interest, categories of standards, proximity (fuzzy logic), and logical relationships

(Continued on Page 4)



### The Uneasy Truce Among Standards, Intellectual Property, and Antitrust Laws

*The following contains excerpts from the first four articles in a series of five articles by attorney E. Robert Yoches, partner with the intellectual property firm of Finnegan, Henderson, Farabow, Garrett & Dunner, L.L.P., Washington, D.C. (202-408-4000; Email [yoches@finnegan.com](mailto:yoches@finnegan.com)). The series began in the August issue of the *Open Systems Standards Tracking Report*,\* and will run through December 1996. The articles explain the relationship between standards and the laws of intellectual property (patents, copyrights, and trademarks) and antitrust. Because of space limitations, it was not possible to reproduce the articles in their entirety. However, most of the first article, which sets the tone for those that follow, is reproduced here along with the titles, a brief introduction, and the conclusions from the next three articles. The full text of these articles is available on the *Open Systems Standards Tracking Report* Web home page at:*

<http://www.digital.com/info/osstr/>.

#### **Article No. 1: "The Uneasy Truce Among Standards, Intellectual Property, and Antitrust Laws"**

Historians may one day look back on the last two decades to try to discern the reasons for the staggering growth in the software and telecommunications industries. Though they will doubtless find many candidates, three reasons likely will figure prominently in most dissertations. Ironically, the three seem at once complementary and contradictory. The first--standards and open systems--fosters competition by communication among competitors to expand opportunities for competition. The second--antitrust law--also encourages competition, but views too much communication among competitors with a skeptical eye. The third--intellectual

(Continued on Page 14)

\* Available at no subscription cost from the Industry Standards and Consortia group, Digital Equipment Corporation. To subscribe, send Email to [bob.schaumann@ljo.dec.com](mailto:bob.schaumann@ljo.dec.com).

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## a note from the Manager...

### DOE Technical Standards Program

Standards Program Office (TSPO) in the Office of Environment, Safety and Health (EH), and provides services that include conducting searches (upon request) for voluntary standards for use within DOE, developing TSs to support DOE programs, and assisting line organizations in technology transfer through the development of technical standards and specifications for our "cutting-edge" technologies. In providing these services, the TSPO also has a responsibility, along with line organizations, to stem the development of "unofficial" technical standards documents, and to support the development of valid TSs under the appropriate Directives System processes.

In some instances, DOE organizations work inadvertently or unknowingly outside of the TSP and Directives System in developing unofficial but actual technical standards documents. Some are published under the scientific and technical information program described by DOE 1430.1D, rather than the TSP/Directives System. Such publications can be contrary to existing policy and guidance of the DOE office of primary responsibility, and lack the approval of the Department's Cognizant Secretarial Officers.

Since such "standards" are often the product of a local and focused effort, they may fail to incorporate the essential features of the standards development process, which includes openness, balance of interest, and due process. As a result, such "de facto" standards (often referred to as "Rogue Standards") may be duplicative, unnecessary, inapplicable, and, as a result, a waste of money and staff effort. They may even be inaccurate from a technical or regulatory standpoint, and leave the DOE Preparing Activity with undetermined legal liabilities.

## Avoidance of "De facto" Standards

Technical standards (TSs) are issued under the Technical Standards Program (TSP) as a part of the DOE Directives System. The TSP is managed by the DOE headquarters Technical

Office of Management and Budget (OMB) Circular No. A-119, issued October 20, 1993, established the policy to be followed by executive branch agencies in procurement and regulatory activities. This policy establishes reliance on private sector-developed voluntary standards, both domestic and international, whenever feasible and consistent with the law and regulation pursuant to the law. OMB Circular A-119 became statute as part of the recently signed National Technology Transfer and Advancement Act of 1995 (Public Law 104-113). It is now public law that the DOE first seek to find and use non-Government voluntary standards for its activities in lieu of developing internal standards. Part of the intent of the process is to ensure that standards development be conducted through a process characterized by openness, balance of interests, and due process as found in private-sector consensus standards bodies.

The TSPO has an established standards development process with full customer participation that is outcome-driven and procedure-guided and allows for openness, balance of interests, and due process. Within this structured process, TSs are developed by subject matter experts (SMEs), appropriately reviewed by SMEs and accorded proper administrative validation. (This is in contrast to "de facto" standards developed under DOE 1430.1D which in the past have often been arbitrarily forced on the laboratory, facility, site, or organization where they were generated.)

The TSPO screens for existing standards in the DOE complex, whether they are being developed within the DOE or derived from non-Governmental national or international consensus standards bodies. As an adjunct to Public Law 104-113, DOE is encouraged to convert existing DOE standards to non-Government consensus standards wherever possible. Identification of "de facto" standards and their incorporation under TSPO procedures will facilitate this ongoing effort. If you need to develop a technical standard for regulatory purposes within DOE (e.g., for procurement, process standardization, specifications), or have new technology (licensed or openly accessible) to make available to U.S. industry, then consult with your TSP representative. For more information on the TSP, look at the TSP Home Page at URL:

<http://apollo.osti.gov/html/techstds/techstds.html>.

— Rick Serbu



## Answers to Frequently Asked Questions

**Question:** I have read from several sources that electronic "document development collaboration" software is being developed that will enable document developers to carry on interactive round-robin discussions "on-line." Does the TSP have any plans to provide such a tool for its participants?

**Answer:** An action item was generated at the last TSMC meeting to evaluate current electronic "authoring systems," also known as

"groupware." A good discussion on the subject is presented in the November 1996 issue of the *Open Systems Standards Tracking Report* in an article entitled "Computer-Based Collaborative Authoring for Standards Development" (see the article in column 2 on Page 1 for access to the *Tracking Report*). According to the article, the existing groupware in general provides only minimal support to the detailed process of collaborative document development, although significant capabilities are already available. Many of the available commercial products are being extended to support authoring, and systems addressing standards development are in the making. They will be reviewed by the TSPO and OSTI.

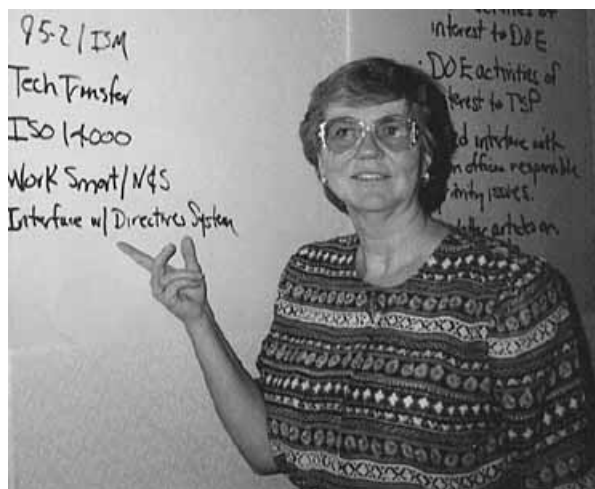
A groupware system named CASCADE (Computer Augmented Support of Collaborative Authoring and Document Editing) is being developed at the University of Pittsburgh. Information on this project may be obtained at the following Internet site (URL): <http://www.lis.pitt.edu/~spring/homepage.html>.

## Roundtables Featured at TSMC 96-2

The DOE Technical Standards Managers' Committee (TSMC) met on October 29-30, 1996, in Alexandria, Virginia. Approximately 40 Technical Standards Managers (TSMs), designated alternates, and other representatives from both DOE and U.S. voluntary standards bodies participated in the meeting's open discussion and breakout sessions. TSMC 96-2 (the second TSMC meeting in 1996) featured two "roundtable" discussions. One roundtable was led by representatives from five standards developing organizations (SDOs) and served to facilitate the interaction of SDOs with the DOE technical standards community. The other roundtable was led by R. L. (Dick) Black, Director of the Office of Nuclear Safety Policy and Standards (EH-31), and focused on the enhanced TSP opportunities resulting from the enactment of Public Law 104-113. In addition, Dr. Lester Ettlinger of the Defense Nuclear Facilities Safety Board (DNFSB) addressed the committee regarding his view of the progress of the TSP since its broad expansion in 1991.

Meeting highlights are summarized below.

1. Issues Identification - To help establish the meeting agenda and focus on issues that are genuinely of concern to the TSMs at the working level, a short issue identification breakout session was conducted among four TSM groups. Key issues were developed, listed, and incorporated into the meeting.
2. Public Law (PL) 104-113 - This new (March 7, 1996) public law continues to dominate the current thinking and activities of the TSP. The implications of this law figured in the discussion of several of the agenda items in this meeting, including its effects on the pending revision to OMB Circular A-119 and the "opportunities" for increased visibility and participation the new law will likely bring to the TSP. Implementation of PL 104-113 within DOE was also the subject of a breakout session.
3. GC Review of DOE Directives - Jeanette Helfrich (GC-52) outlined the implications of recent court rulings and Congressional actions establishing new review/notification requirements that are applicable to the DOE directives (including technical standards) process. As a result, the Office of General Counsel will begin reviewing all drafts of new or revised DOE directives; in some instances, notification to Congress will be required before the new or revised directives go into effect.
4. Application of the Necessary and Sufficient (N&S) Closure Process at the Nevada Test Site (NTS) - Dennis Murphy, Bechtel Nevada, presented a summary of the application of the N&S process at NTS. The approach used at NTS was to organize a Nevada Industrial Standards Convened Group



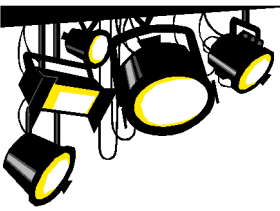
Mayme Crowell, ORAU TSM, discusses the results of a TSMC breakout-out session.

(NISCG), whose task was to implement and oversee the N&S process at the NTS. The N&S standards process managed by the NISCG was focused in four general areas: (1) Administration, (2) Infrastructure, (3) Operations, and (4) Environment, Safety, and Health. A contract change is planned in December 1996 to effect the results of this process for NTS.

5. Status of O252.1, G-252.1-1, and OMB A-119 - Jeff Feit, Deputy TSP Manager, EH-31, reported that more than 100 comments on the drafts of O252.1, *Technical Standards Program* and G-252.1-1, *Implementation Guide for the Technical Standards Program* have been received and are being processed. Many of the comments requested a more complete explanation of the workings of the DOE Directives System, a subject more appropriate for treatment in DOE M 251.1, *Directives System Manual*. Rick Serbu, in reporting on the status of the revision to OMB A-119, stated that everything in the circular will be reorganized, but the requirements will remain essentially the same except for the effect of PL 104-113 on the proposed development of new or revised DOE technical standards (i.e., there will be more emphasis on project screening to identify existing standards and ensure justification exists for preparing new DOE technical standards).
6. DSC Activities - Rick Serbu briefly outlined ongoing DSC activities, primarily those associated with SPATs 11, 12, and 13. He noted that the DSC continues to focus on the Work Smart Standards process, but may expand into integration of DOE standards activities during the coming year.
7. SDO Roundtable - Five representatives of SDOs were present: John Ferguson, American Society of Mechanical Engineers (ASME); Kitty Kono, American Society for Testing and Materials (ASTM); Jim Mallay, American Nuclear Society (ANS); Bob Vondrasek, National Fire Protection Association (NFPA); and John Stevenson, American Society of Civil Engineers (ASCE). Each briefly described the standards activities of their organization and business protocols for initiating the development of new voluntary standards or revising existing standards. At the conclusion of the roundtable, it was agreed that increased interaction between SDOs and the DOE technical standards community should continue to be strongly promoted by the TSP.
8. DNFSB View of the TSP - Dr. Ettlinger shared his personal views on the progress of the program. He stated that DOE has a good standards program and there are many positives (especially when compared to the time prior to DNFSB

(Continued on Page 15)

## Technical Standards Manager Spotlight



**Lynn Maestas**  
**Technical Standards Manager**  
**Albuquerque Operations**  
**Office**



Lynn Maestas' background includes a diversity of educational and DOE experiences. She received an undergraduate bachelor of arts degree in physics from Kenyon College in 1985, and a Masters in Business Administration from the University of Richmond in 1990. She is currently located at the Albuquerque Operations Office (AL) in Albuquerque, New Mexico.

Ms. Maestas' experience began with special assignments in the Department of Energy at Headquarters and the Western Area Power Administration (WAPA). In September 1992, Ms. Maestas transferred to the AL and took a position with the Operational Surety Program as their Program Manager for Occurrence Reporting, Performance Indicators, Lessons Learned, and Corrective Action Management Programs, as well as a site liaison for multiple AL sites.

In May 1995, Ms. Maestas accepted a position with the Performance Assessment Division to lead standards-related activities at AL. Some of her responsibilities included: Order Compliance Self-Assessment, DOE Field Office Accelerator for the review of new ES&H Orders, and the DOE Technical Standards Program. Since that time, her responsibilities have been expanded to include: the integrated safety review required by DOE Policy 450.2a; AL representative for the initiative to develop Department-wide Functions, Responsibilities, and Authorities; and AL subject matter expert on Department standards-related activities. Her current challenge is to integrate the above mentioned activities into one program.

Ms. Maestas believes that integrating technically sound standards into all work activities can be accomplished through a rigorous and cohesive program for standards management. To achieve this, she is leading the development of an AL program that relies on the concepts of the multiple Department initiatives and utilizes the strengths of AL knowledge and resources. AL is fortunate to have area and project office personnel that provide a wealth of knowledge and variety of experience that contribute to the success of its standards endeavors. Ms. Maestas recently hosted a meeting to enable AL personnel and key Headquarters stakeholders to learn

**"Integrating technically sound standards into all work activities can be accomplished through a rigorous and cohesive program for standards management."**

**— Lynn Maestas**

and share information about various methods and applications, both at AL sites and across the complex. This meeting provided a forum for field participants to learn about the Department's evolving standards policies and to participate in development of a future pathway and vision for the AL Standards Program.

The AL Standards Program vision is to: provide an integrated system for tailoring standards that acknowledges and enables versatile processes, methods, and tools;

focus on successful outcomes and be receptive to changes and differences in methods and processes; measure the outcome and take action to continually improve these methods and processes; and continue teaming as a means to stimulate higher levels of work and safety performance.

The AL Standards Program document provides guidance on identifying the need for standards, as well as preparing, reviewing, applying, implementing and assessing standards. Though all of these elements are essential to the AL program, the strength of the program is the integration of the various elements and the risk-based, graded approach to its implementation. The AL Standards Program is based on the expected outcomes essential to a standards-based management program and is consistent with Department policy and DNFSB recommendations.

The program and its document description are currently in development, and AL plans to host another meeting to share progress and solicit ideas in early 1997. Organizations interested in participating are encouraged to Email Ms. Maestas at [hmaestas@doeal.gov](mailto:hmaestas@doeal.gov).

### NSSN - The Electronic Shopping Mall... (Continued from Page 1)

(Boolean). The results of the searches will be available to users to browse documents on-line, find out about standards that are being developed, look at graphics on-line, and comment on standards that are in progress.

Implementation of the NSSN will likely be of significant value to U.S. businesses and government programs. The ability to quickly find information directly related to a certain issue provides a definite competitive advantage to the user. Immediate access to the right

data, at the right time, and in the right place adds value in many ways. It can allow small and medium size companies to compete with larger companies and can allow the location of critical information which is vital to completing a job in the safest and most efficient manner. Funding for the NSSN has come from government grants with matching funds from U.S. industrial partners. The advantages of the completed network will benefit them all.

For more information on NSSN, call 703-558-9606 or FAX 703-558-3266, or Internet at <http://ansi.org.home.html>.

## Technical Standards Manager Spotlight



### Dennis W. Murphy Technical Standards Manager



Dennis W. Murphy has been associated with the Technical Standards Program since 1992. Prior to being identified as the Bechtel Nevada Technical Standards Manager, he served as the Reynolds Electrical and Engineering Co., Inc. (REECo) Technical Standards Manager. During this time, he has been involved with the DOE/DP Order Compliance Self-Assessment Project, the DOE/NV Necessary and Sufficient Process, and various Environment, Safety, Health, and Quality related activities.

In describing his involvement with the TSP, Dennis said, "My first Technical Standards Managers meeting was in Dallas in February 1994. We discussed the TSP objectives and the role of the Technical Standards Manager. The result of that meeting was the issuance of the Technical Standards Program Procedures (TSPPs) and the 'chartering' of the Technical Standards Managers' Committee (TSMC). Although the TSPPs have evolved, the basic premise for the TSP, as envisioned by the TSMC, has remained unchanged: develop DOE technical standards only when industry/consensus standards are unavailable."

"That vision has now been codified by Public Law 104-113 (National Technology Transfer and Advancement Act of 1995)," Dennis continued. "The law requires Federal agencies and departments to 'use technical standards that are developed or adopted by voluntary consensus standards bodies.' Therefore, any proposed DOE technical standard must be justified. I believe that DOE will be able to show implementation of PL 104-113 as a direct result of the TSP."

In discussing the workings of the TSMC, Dennis stated, "An important attribute of the TSMC has been the ability to solve problems or issues as a group. In most instances, resolutions are completed at the meeting where the issues are identified. When a task group is established to investigate an issue that cannot be resolved at the meeting, their input is completed and presented at the next meeting. I am amazed and pleased to see that a group of 60 professionals can work as well as a committee of 5 to 10."

Dennis received his doctorate from Purdue University in 1978 and started his career with Battelle Pacific Northwest Laboratory (now Pacific Northwest National Laboratory) as a health physicist. In 1983, he moved to Las Vegas where he was involved in supporting radiation-related litigations involving DOE and DOE contractors.

"Litigation opened my eyes to the need for the establishment of a good standards program," Dennis told *The Standards Forum*. "In reviewing the historical documents, AEC and AEC contractor

professionals established standards, practices and procedures which were the genesis for many current voluntary standards. Until the advent of the Necessary & Sufficient Process (now called the Work Smart Standards), DOE and DOE contractors, especially in the nuclear weapons area, have maintained a 'we're different' attitude. Now, we are realizing that most DOE activities have commercial counterparts that work to voluntary consensus standards. For DOE to establish and maintain credibility, we must work to the same standards as industry wherever possible."

Dennis also contributed his insight on the development of DOE technical standards: "For truly unique activities, DOE technical standards can be developed. The box around 'unique' must be continually questioned and documented. The goal should be to keep making the 'unique' box smaller each year in order to push DOE technology to commercialization. NASA serves as an excellent example for transferring federally developed technology into commercial activities."

**"The basic premise for the Technical Standards Program... has remained unchanged: develop DOE technical standards only when industry/consensus standards are unavailable." "For DOE to establish and maintain credibility, we must work to the same standards as industry wherever possible."**

**— Dennis Murphy**

"Although I am a health physicist by trade, my job description can be characterized primarily by 'ODA' (Other Duties as Assigned). The assignment as Technical Standards Manager was an ODA which has evolved into a rewarding association. Although the TSP is not a 'high visibility' DOE activity, it has provided a value-added service to DOE and its contractors."

When questioned about the future challenges for the program, Dennis responded, "The TSMC needs to aggressively promote participation in non-Government standards bodies. The public law (PL104-113) now provides a legal basis to actively support such participation and the Technical Standards Manager must become the champion for individuals who wish to participate. I foresee this as a new role for the TSMC and all Technical Standards Managers."

## Upcoming Meetings

### January 30-31, 1997

#### Information Infrastructure Standards Panel Meeting

Key Bridge Marriott - Arlington, Virginia

For more information, contact Peter B. Lefkin, ANSI program administrator for information infrastructure programs, at 212-642-4979; Email: [plefkin@ansi.org](mailto:plefkin@ansi.org).



4. training;
5. public affairs;
6. exercises/lessons learned and responses to actual events and
7. regulatory issues.

For more information, contact: Sav Mancieri, [mancieri1@llnl.gov](mailto:mancieri1@llnl.gov), LLNL, P.O. Box 808, Livermore, CA 94551, phone: 510-422-6920; FAX: 510-422-2470.

### March 3-6, 1997

#### American Defense Preparedness Association (ADPA) National Symposium and Exposition

Radisson Hotel - New Orleans, Louisiana

Theme: *Convergence of Commercial and Military Specifications for Military Systems*

This is an unclassified forum to examine the revision, convergence and/or elimination of military specifications and standards, the response by industry, and the role of the tester in this dynamic environment. Government representatives from various departments, professional associations, and industry representatives will discuss their objectives and progress in this area. Industry will present a series of case studies examining the obstacles, cost, benefits and risks of shifting to commercial specs and standards. Finally, testers from government and the private sector will address the positive and negative impacts on testing and lessons learned in this changing environment.

For more information, contact ADPA, phone: 703-522-1820; FAX 703-522-1885.

### April 22-25, 1997

#### ANS Sixth Topical Meeting on Emergency Preparedness and Response

Cathedral Hill Hotel, San Francisco, California

The American Nuclear Society (ANS) Sixth Topical Meeting on Emergency Preparedness and Response, is sponsored by the ANS's Environmental Sciences Division, Northern California Section. The Department of Energy and Lawrence Livermore National Laboratory (LLNL) are also sponsors of this meeting. The meeting provides an opportunity to present and discuss recent innovative advances in response and mitigation capabilities for nuclear, chemical, and natural emergencies. Topical areas to be discussed at this meeting are:

1. emergency preparedness, planning, and response for nuclear and chemical accidents at local, state, federal, and international levels;
2. technology advances related to environmental and source term monitoring, meteorological measurements, environmental transport and dispersion modeling, health effects, decision making systems, etc.;
3. facility emergency management;

### May 26-30, 1997

#### Fifth International Conference on Nuclear Engineering

Acropolis Convention Center - Rhodes Area Nice, France

Theme: *Nuclear Advances Through Global Cooperation*

The American Society of Mechanical Engineers International (ASME), the Societe Francaise D'Energie Nucleaire (SFEN) and the Japan Society of Mechanical Engineers (JSME) are jointly organizing the Fifth International Conference on Nuclear Engineering in 1997, a follow up to the successful meetings held in Tokyo (1991), San Francisco (1993), Kyoto (1995) and New Orleans (1996).

For more information, contact B. Bigalke, ASME, 345 East 47th St., New York, New York 10017, USA, Phone: 212.705.7057; FAX: 212.705.7856, or <http://www.asme.org/conf/icon5/iconefrm.html>.

### June 1-5, 1997

#### 1997 American Nuclear Society (ANS) Annual Meeting

Marriott's Orlando World Center - Orlando, Florida

Theme: *Nuclear Science and Technology - A Partnership Among Academia, Industry, Utilities, and National Laboratories*

For more information, contact General Chair Thomas F. Plunkett, Florida Power & Light Company, P.O. Box 14000, Juno Beach, Florida 33408-0420; phone 561-694-4220; Email [tom\\_plunkett@email.fpo.com](mailto:tom_plunkett@email.fpo.com).

There will be an embedded topical meeting on Advanced Reactor Safety (ARS '97), sponsored by the ANS Nuclear Reactor Safety Division. For information, contact General Chair George F. Flanagan, Oak Ridge National Laboratory, P.O. Box 2008, Oak Ridge, Tennessee 37831-6398; phone 423-574-8541; Email [gff@ornl.gov](mailto:gff@ornl.gov).

### August 25-26, 1997

#### 46th Annual Standards Engineering Society (SES) Conference

Opryland Hotel & Conference Center - Nashville, Tennessee

The conference theme and agenda are under development and should be available after December 14, 1996. A 2-1/2 day Professional Development Course entitled, "A Strategic Approach to Company Standardization," will follow the conference on August 27-29, 1997.

For more information, contact Don Kear, SES Executive Director, [Dlkgen@aol.com](mailto:Dlkgen@aol.com).



# Standards *Actions*

## Projects Initiated

The following DOE technical standards projects were recently initiated. If you are interested in participating in the development of these standards, please contact the persons listed below.

- *Establishing and Maintaining a Facility Representative Program at DOE Nuclear Facilities*, Project Number FACR-0019; Joe Hassenfeldt, FM-10; 202-586-1643, FAX 202-586-3933, Email [Joseph.Hassenfeldt@hq.doe.gov](mailto:Joseph.Hassenfeldt@hq.doe.gov).
- *Uninterruptible Power Supply (UPS) Systems*, Project Number 6140-0003; John Fredlund, DP-45; 301-903-3059, FAX 301-903-8754, Email [John.Fredlund@dp.doe.gov](mailto:John.Fredlund@dp.doe.gov).

## Documents Recently Published

The following DOE documents have recently been published:

- DOE-STD-1090-96, *Hoisting and Rigging* (Formerly *Hoisting and Rigging Manual*), September 1996.
- DOE-STD-3013-96, *Criteria for Preparing and Packaging Plutonium Metals and Oxides for Long-Term Storage*, September 1996.

DOE employees and DOE contractors may obtain copies from the DOE Office of Scientific and Technical Information (OSTI), P.O. Box 62, Oak Ridge, Tennessee 37831; telephone 423-576-8401 or FAX 423-576-2865.

Subcontractors and the general public may obtain copies from the U.S. Department of Commerce, Technology Administration, National Technical Information Service, Springfield, Virginia 22161; telephone 703-487-4650 or FAX 703-321-8547.

The Technical Standards Program is sponsoring a project at OSTI to place *all* DOE technical standards (i.e., DOE Standards, Specifications, Handbooks, and Technical Standards Lists) on the Internet. To date, 110 DOE technical standards have been placed on the Internet at the following address:

<http://apollo.osti.gov/html/techstds/techstds.html>.

The following DOE technical standard has recently been placed on the Internet:

- DOE-STD-3014-96, *Accident Analysis for Aircraft Crash Into Hazardous Facilities*, October 1996.

## Non-Government Standards

### American National Standards Institute

The American National Standards Institute (ANSI) publishes coordination activities of non-Government standards (NGS) biweekly in *ANSI Standards Action*. Please note that distribution of *ANSI Standards Action* is normally made only to individual members of ANSI or in group mailings to site members of ANSI.

For information on site membership, ask your local ANSI contact. For information on individual or group ANSI membership, call Bethany Marks at 212-642-4948. For further information on distribution policies of ANSI publications, call the ANSI distribution manager at 212-642-4952.

Copies of *ANSI Standards Action* and ANSI-published documents may be obtained from ANSI, 11 West 42nd Street, New York, NY 10036 (212-642-4900, FAX 212-302-1286). Comments on

listed draft standards may be submitted by contacting the standards developing organization for information.

The following listings are extracted from *ANSI Standards Action* and are representative of NGS development activities that may be relevant to DOE operations. Refer to *ANSI Standards Action* for a complete listing of changes and new publications, standards-developing organizations, and additional information about submitting comments.

The following American National Standards are currently in coordination:

- ASHRAE 52.2P, *Method of Testing General Ventilation Air-Cleaning Devices for Removal Efficiency by Particle Size* (new standard); comments due January 14, 1997.
- ASME PTC 19.11, *Steam and Water Sampling, Conditioning and Analysis in the Power Cycle* (new standard); comments due January 7, 1997.
- C18.2M, *Batteries - Sealed Rechargeable (Secondary) Nickel-Cadmium Cylindrical Bare Cells and Jacketed Batteries* (revision of ANSI C18.2M-1991); comments due January 7, 1997.
- C29.12, *Insulators - Composite - Suspension Type* (new standard); comments due December 24, 1996.

(Continued on Page 8)

### Technical Standards Program Document Status as of 11/27/96

In Conversion	In Preparation	Out for Comment	Published in Past 30 Days
4	59	19	2

**Total in process = 78**

## Standards Actions (Continued from Page 7)

- IEEE C37.112-1996, *Standard Inverse-Time Characteristic Equations for Overcurrent Relays* (new standard); comments due January 7, 1997.
- IEEE C37.123-1996, *Guide to Specifications for Gas-Insulated Electric Power Substation Equipment* (revision of ANSI/IEEE C37.123-1991); comments due January 7, 1997.
- IEEE 112-1996, *Standard Test Procedure for Polyphase Induction Motors and Generators* (revision of ANSI/IEEE 112-1992); comments due January 7, 1997.
- IEEE 367-1996, *Recommended Practice for Determining the Electric Power Station Ground Potential Rise and Induced Voltage from a Power Fault* (revision of ANSI/IEEE 367-1987); comments due January 7, 1997.
- ISA dS 12.0.01, *Electrical Apparatus for Use in Class I, Zone 0 and 1 Hazardous (Classified) Locations - General Requirements*, (new standard); comments due December 24, 1996.
- S12.43, *Methods for Calculation of Sound Emitted by Machinery and Equipment at Workstands and Other Specified Positions* (new standard); comments due December 24, 1996.
- UL 260, *Standard for Safety for Dry Pipe and Deluge Valves for Fire-Protection Service* (new standard); comments due December 24, 1996.
- UL 405, *Standard for Safety for Fire Department Connections* (new standard); comments due December 24, 1996.
- UL 558, *Standard for Safety for Industrial Trucks, Internal Combustion Engine-Powered* (revision of ANSI/UL 558-1991); comments due December 24, 1996.
- UL 583, *Standard for Safety for Electric-Battery-Powered Industrial Trucks* (revision of ANSI/UL 583-1991); comments due January 7, 1997.
- UL 810, *Standard for Safety for Capacitors* (new standard); comments due December 24, 1996.
- UL 1993, *Standard for Safety for Self-Ballasted Lamps and Lamp Adapters* (new standard); comments due December 24, 1996.
- UL 2279, *Standard for Safety for Electrical Equipment for Use in Class I, Zone 0, 1, and 2 Hazardous (Classified) Locations* (new standard); comments due January 7, 1997.
- Z535.1, *Safety Color Code* (revision of ANSI Z535.1-1991); comments due December 24, 1996.
- Z535.2, *Environmental and Facility Safety Signs* (revision of ANSI Z535.2-1991), comments due December 24, 1996.
- Z535.3, *Criteria for Safety Symbols* (revision of ANSI Z535.3-1991); comments due December 24, 1996.
- Z535.5, *Accident Prevention Tags* (for Temporary Hazards) (revision of ANSI Z535.5-1991); comments due December 24, 1996.

**The following newly published American National Standards are available from ANSI:**

- ANSI/ASHRAE 63.1-1995, *Methods of Testing Liquid Line Refrigerant Driers*.
- ANSI/ASHRAE 116-1995, *Methods of Testing for Rating, Seasonal Efficiency of Unitary Air Conditioners and Heat Pumps*.
- ANSI/ASME A112.3.1-1993, *Performance Standard and Installation Procedures for Stainless Steel Drainage Systems for Sanitary Storm and Chemical Application, Above and Below Ground*.
- ANSI/ASME B30.2-1996, *Overhead and Gantry Cranes (Top Running Bridge, Single or Multiple Girder, Top Running Trolley Hoist)* (includes revision service).
- ANSI/NFPA 72-1996, *National Fire Alarm Code*.
- ANSI/NFPA 30-1996, *Flammable and Combustible Liquids Code*.

**The following international standards are currently in coordination** (comment due dates follow each entry):

- HD 384.5.52 S1: 1995/prAA: 1996, *Electrical installations of buildings - Part 5: Selection and erection of electrical equipment - Chapter 52: Wiring systems* - January 13, 1997.
- ISO/DIS 1680, *Acoustics, Test code for the measurement of airborne noise emitted by rotating electrical machinery* (revision of ISO 1680-1: 1986 and ISO 1680-2: 1986) - January 17, 1997.
- ISO/DIS 3452-1, *Nondestructive testing - Penetrant inspection - Part 1: General principles* (revision of ISO 3452: 1984) - December 26, 1996.
- ISO/DIS 3735, *Crude petroleum and fuel oils - Determination of sediment - Extraction method* (revision of ISO 3735: 1975) - January 17, 1997.
- ISO/DIS 10441, *Petroleum and natural gas industries - Flexible couplings for mechanical power transmission in special purpose applications* - January 10, 1997.
- ISO/DIS 11348-1, *Water quality - Determination of the inhibitory effect of water samples on the light emission of Vibrio fischeri (Luminescent bacteria test) - Part 1: Method using freshly prepared bacteria* - January 3, 1997.
- prEN 247, *Heat exchangers - Terminology* (for information).
- prEN 524-1, *Steel strip sheaths for prestressing tendons - Test methods - Part 1: Determination of shape and dimensions* (for information).
- prEN 840-6, *Mobile waste containers - Part 6: Safety and health requirements* (for information).
- prEN 894-1, *Safety of machinery - Ergonomics requirements for the design of displays and control actuators - Part 1: General principles for human interactions with displays and control actuators* (for information).

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**Standards Actions** (Continued from Page 8)

- prEN 1473, *Installation and equipment for liquefied natural gas - Design of onshore installations* (for information).
- prEN 12542, *Design and manufacture of static welded steel cylindrical tanks for liquefied petroleum gas (LPG) having a volume not greater than 13m<sup>3</sup> and installation overground* - February 5, 1997.
- prEN 12574-2, *Stationary waste containers - Part 2: Test methods for stationary waste containers with a capacity up to 5000 L* - February 5, 1997.
- prEN 12574-3, *Stationary waste containers - Part 3: Safety and health requirements for stationary waste containers with a capacity up to 5000 L* - February 5, 1997.
- prEN 12583, *Compressor stations for gas supply systems* - February 12, 1997.
- prEN 12589, *Ventilation for buildings - Air terminal units - Aerodynamic testing and rating of constant and variable rate terminal units* - February 19, 1997.
- prEN 12601, *Reciprocating internal combustion engine driven generating sets - Safety* - February 26, 1997.
- prEN ISO 3741 REVIEW, *Acoustics - Determination of sound power levels of noise sources using sound pressure - Precision methods for reverberation rooms (ISO/DIS 3741: 1996)* - January 19, 1997.
- prEN ISO 4126-2, *Safety devices for protection against excessive pressure - Part 2: Bursting disc safety devices (ISO/DIS 4126-2: 1996)* - January 5, 1997.
- prEN ISP 14958-1, *Industrial automation systems - International standardized profile AMM31: MMS numerical controller applications base profile - Part 1: Specification of ACSE, presentation and session protocols for the use by MMS (ISO/IEC DISP 14958-1: 1996)* - December 23, 1996.

**The following newly published international standards are available from ANSI**

- IEC 255-55-2:1996, *Electrical tests - Part 22: Electrical disturbance tests for measuring relays and protection equipment - Section 2: Electrostatic discharge test.*
- IEC 300-3-3: 1996, *Dependability management - Part 3: Application guide - Section 3: Life cycle costing.*
- IEC 1036: 1996, *Alternating current static watt-hour meters for active energy (classes 1 and 2).*
- IEC 1334-4-32: 1996, *Distribution automation using distribution line carrier systems - Part 4: Data communication protocols - Section 32: Data link layer - Logic link control (LLC).*
- IEC 1525: 1996, *Radiation protection instrumentation - X, gamma, high energy beta, and neutron radiations - Direct reading personal dose equivalent and/or dose equivalent rate monitors.*
- ISO 3839: 1996, *Petroleum products - Determination of bromine number of distillates and aliphatic olefins - Electrometric method.*

- ISO 10814: 1996, *Mechanical vibration - Susceptibility and sensitivity of machines to unbalance.*
- ISO 11553: 1996, *Safety of machinery - Laser processing machines - Safety requirements.*
- ISO 14010: 1996, *Guidelines for environmental auditing - General principles.*
- ISO 14011: 1996, *Guidelines for environmental auditing - Audit procedures - Auditing of environmental management systems.*
- ISO 14012: 1996, *Guidelines for environmental auditing - Qualification criteria for environmental auditors.*

**American Society for Testing and Materials**

Standards activities of the American Society for Testing and Materials (ASTM) are published monthly in *ASTM Standardization News*. Orders for subscriptions or single copies of *ASTM Standardization News* may be submitted to ASTM, Subscription Dept.-SN, 100 Barr Harbor Drive, West Conshohocken, Pennsylvania 19428-2959. For information regarding ASTM membership, contact the Membership Services Department at 610-832-9692. ASTM publications may be ordered from the ASTM Customer Services Department at 610-832-9585 (FAX 610-832-9555). Comments on listed draft standards may be submitted by contacting the ASTM Standards Coordination Department at the above address. Questions may be addressed to the Technical Committee Operations Division at 610-832-9743 (FAX 610-832-9666). ASTM is developing a World Wide Web home page at the following URL: <http://www.astm.org>. The following listings are extracted from *ASTM Standardization News* and are representative of NGS development activities that may be relevant to DOE operations.

**The following ASTM standards are currently in coordination**  
(the due date for all items is December 10, 1996):

- New Standard, *Test Method for Carbon (Total) in Uranium Oxide Powders and Pellets by Direct Combustion-Infrared Detection Method* (Ref. Z5935Z).
- C 1068-91, *Guide for Qualification of Measurement Methods by a Laboratory Within the Nuclear Industry* (revised standard).
- C 1210-91, *Guide for Establishing a Measurement System Quality Control Program for Analytical Chemistry Laboratories Within the Nuclear Industry* (revised standard).
- New Standard, *Test Method for Monotonic Compressive Strength Testing of Continuous Fiber-Reinforced Advanced Ceramics With Solid Rectangular Cross-Section Specimens at Ambient Temperatures* (Ref. Z4877Z).
- New Standard, *Test Method for High Temperature Foaming Characteristics of Lubricating Oils* (Ref. Z5366Z).
- New Standard, *Classification of Hydraulic Fluids for Environmental Impact* (Ref. Z6525Z).
- D 1796-83(1990), *Test Method for Water and Sediment in Fuel Oils by the Centrifuge Method (Laboratory Procedure)* (revised standard).

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**Standards Actions** (Continued from Page 9)

- New Standard, *Practice for Using Hollow-Stem Augers for Soil Sampling and Geotechnical Exploration* (Ref. Z2761Z).
- New Standard, *Guide for Selection of Soil and Rock Sampling Devices Used With Drill Rigs for Environmental Investigations* (Ref. Z5734Z).
- New Standard, *Guide for Using the Electronic Cone Penetrometer for Environmental Site Characterization* (Ref. Z5945Z).
- New Standard, *Practice for Determining Suspended Sediment Concentration in Water Samples* (Formerly D 3977-80).
- New Standard, *Practice for Handling, Transportation and Storage of HFC-277ea 1, 1, 1, 2, 3, 3-Heptafluoropropane (CF<sub>3</sub>CHF<sub>2</sub>CF<sub>3</sub>)<sub>1</sub>* (Ref. Z6227Z).
- D 5144-91, *Guide for Use of Protective Coating Standards in Nuclear Power Plants* (revised standard).
- D 4618-92, *Specification for the Design and Fabrication of Flue Gas Desulfurization System Components for Protective Lining* (revised standard).
- D 5163-91, *Guide for Establishing Procedures to Monitor the Performance of Safety Related Coatings in an Operating Nuclear Power Plant* (revised standard).
- New Standard, *Method for Use of 2N2222A Silicon Bipolar Transistors as Neutron Spectrum Sensors and Displacement Damage Monitors* (Ref. Z4641Z).
- E170-96, *Terminology Relating to Radiation Measurements and Dosimetry* (revised standard).

**The following newly published standards are available from ASTM:**

- A 240/A A 240M-96, *Specification for Heat-Resisting Chromium and Chromium-Nickel Stainless Steel Plate, Sheet, and Strip for Pressure Vessels* (revised standard).
- C 1288-96, *Specification for Discrete Non-Asbestos Fiber-Cement Interior Substrate Sheets* (revised standard).
- C 1337-96, *Test Method for Creep and Creep Rupture of Continuous Fiber-Reinforced Ceramic Composites Under Tensile Loading at Elevated Temperatures* (new standard).
- D 5865-96, *Test Method for Gross Calorific Value of Coal and Coke* (revised standard).
- D 5957-96, *Guide for Flood Testing Horizontal Waterproofing Installations* (new standard).
- D 5741-96, *Practice for Characterizing Surface Wind Using a Wind Vane and Rotating Anemometer* (new standard).
- D 5370-96, *Specification for Pozzolan Blended Materials in Construction Applications* (new standard).
- E 1276-96, *Practice for Use of a Polymethylmethacrylate Dosimetry System* (new standard).

- E 1818-96, *Practice for Dosimetry in an Electron Beam Facility for Radiation Processing at Energies Between 80 and 300 Kev* (new standard).
- E 1821-96, *Method for Determination of Carbohydrates in Biomass by Gas Chromatography* (new standard).
- F 1236-96, *Guide for Visual Inspection of Electrical Protective Rubber Products* (revised standard).

**American National Standards Projects Initiated**

The following is a list of proposed new American National Standards or revisions to existing American National Standards submitted to ANSI by accredited standards developers. DOE employees or contractors interested in participating in these activities should contact the appropriate standards developing organization. DOE-TSL-4 lists the DOE representatives on NGS committees. If no DOE representative is listed, contact the TSPO for information on participating in NGS activities.

**American Society of Mechanical Engineers**

**Office:** 345 East 47th Street  
New York, NY 10017

**Contact:** Richard McGinnis

- ASME QFO, *Qualification of High Capacity Fossil Fuel Fired Plant Operators* (new standard).

**Institute of Electrical and Electronics Engineers**

**Office:** 445 Hoes Lane, P. O. Box 1331  
Piscataway, NJ 08855-1331

**Contact:** Luigi Napoli

- IEEE 634, *Standard Cable Penetration Fire Stop Qualification Test* (new standard).
- IEEE 1148, *Guide for Cathodic Protection of Power Plant Equipment and Structures* (new standard).
- IEEE 1402, *Guide for Electric Power Substation Physical and Electronic Security* (new standard).

**National Association of Corrosion Engineers International**

**Office:** P. O. Box 218340  
Houston, TX 77218-8340

**Contact:** Stacey Crews

- BSR/NACE TM0284-96, *Evaluation of Pipeline Steels for Resistance to Stepwise Cracking* (revision).

**Underwriters Laboratories, Inc.**

**Office:** 1285 Walt Whitman Road  
Melville, NY 11747-3081

**Contact:** Paul Orr

- BSR/UL 1449, *Standard for Safety for Transient Voltage Surge Suppressors* (new standard).

**Office:** 12 Laboratory Drive  
Research Triangle Park, NC 27709-3995

**Contact:** Betty Allen

- BSR/UL 1469, *Standard for Safety for Strength of Body and Hydraulic Pressure Loss Testing of Backflow Special Check Valves* (new standard).

## Standards for Nomads

The Information Infrastructure Standards Panel (IISP) recently finalized twelve Nomadicity Standards Needs necessary for the Global Information Infrastructure (GII). IISP released the standards needs at a meeting on August 18-19, 1996, in Alexandria, Virginia. The new requirements bring the total number of standards needs identified by IISP to one hundred (100). Summaries and links to the full text of all of the Standards Needs Identified by IISP can be found at the following URL: <http://www.ansi.org/iisp/needlist.html>.

In today's information society, people tend to be highly mobile. For example, the advent of the cellular telephone has changed the traditional model of the office dramatically. Today's professional is no longer tied to a stationary desk linked by wires to a telephone circuit or Local Area Network (LAN) connection. He or she now has the flexibility of communicating by voice, data or fax while on the move. Similarly, a wide variety of voice and data communications are now being used for nonbusiness applications, such as banking via car phone on the way to work or chatting on the Internet.

This increase in mobility has led to a new phenomenon -- the nomadic user. "Nomadicity" is the capability of people to move from place to place -- we can refer to them as nomads -- while retaining access to services that may or may not be available within their local environment. It is the ability to offer clients continuity of access in time and space. The standards needs identified by IISP address the provision of services which are flexible and responsive to the minimum and essential requirements of the nomad. In the current mobile environment, the nomad will typically carry some essential connection appliances such as a cellular phone, and rely on connecting to some remote service to complete the tool set required for his or her application. The major difference from the current environment is that the nomad may connect using different appliances, different communications services, or different locations at different times. The nomadic standards needs identified by IISP can be accessed at the URL given above. They are identified as IISP Need numbers 86 through 97 and cover Hand-Off Mechanism, Person / Device Location, Device Coordination, Communications Management, Rerouting, Unique and Anonymous IDs, Context Management, Security, Dynamic Service Allocation, Persona Management, Exception Handling, and Logical Network / Infrastructure Management.

## National Electrical Safety Code Goes Metric

The 1997 edition of the National Electrical Safety Code (NESC) was published on August 1, 1996, and contained SI units as the preferred units of measurement. At the same time, the Institute of Electrical and Electronics Engineers (IEEE) Standards Board has declared through the IEEE Metric Policy that all new and revised IEEE standards published after January 1, 1998, will contain metric units as the first place (preferred) units of measurement.

NESC sets many of the safety standards for power and communications companies throughout the U.S., and since many of the IEEE standards directly or indirectly impact the code, it was only prudent for IEEE to make this decision. NESC members believe that metric awareness on the part of code users should be increased, since it would help them when working with related standards from other standards developing organizations, such as IEEE. Additionally, U.S. industry experience has already shown

that after workers have become familiar with SI measurements, they prefer working with them instead of the "inch-pound" system. This is most probably due to the fact that SI units use the decimal system that eliminates the manipulation of fractions, which are always a potential source of errors, particularly in rounding. Also, according to a recent article in the IEEE *Standards Bearer* newsletter, SI units provide a coherent system of measurements. Coherence is the direct

relationship, without intervening constants, that exists between the fundamental and derived units. Based upon only fundamental units (meter, kilogram, second, ampere, kelvin, mole, candela), SI completely satisfies the measurement system needs of the world's industrialized nations.

Preparing Activities for DOE technical standards should actively embrace the use of metric units in writing and revising DOE technical standards. Many documents in our current inventory could easily be converted to SI units with no loss of understanding by the users. After January 1, 1997, any new or revised documents received by the TSPO for printing and placement on the Internet will be carefully reviewed for the use of SI units. If inch-pound documents are received, the Preparing Activity will be contacted for a discussion of the preference for SI units and possible revision of the document to SI. If you have any questions on the use of SI units in DOE technical standards, please contact Don Spellman, ORNL, 423-574-7891, [spellmandj@ornl.gov](mailto:spellmandj@ornl.gov).

## Preliminary Notice - 1997 Technical Standards Program Workshop

Plans are currently underway for organizing the annual Technical Standards Program workshop. This year, the workshop will be held July 8-10, 1997, at the L'Enfant Plaza Hotel in Washington, D.C. The hotel is immediately behind the DOE Forrestal Building and provides easy access to all of the activities in the downtown area. The workshop is planned this year for the week immediately following the annual Fourth of July celebration in Washington, D.C., so if you want to arrive early, the festivities and fireworks display will be easily accessible from the hotel. A special room rate of \$101.00 plus taxes (approximately \$15.00) has been negotiated for our workshop. The special room rates should be available to us for several days prior to the workshop as long as we register sufficiently in advance of the meeting dates.

As usual, the Technical Standards Managers' Committee meeting will be held from noon Monday, July 7 through noon Tuesday, July 8th. The actual workshop will then start about 1:00 pm on

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Tuesday and run through about 3:00 pm on Thursday, July 10th. Recognizing that all travel funds are severely restricted this year, we are trying to notify everyone as early as possible so that travel plans and accommodations can be made for the event. As soon as the agenda for the workshop is confirmed, a flier announcing the workshop will be distributed by the TSPO. In the meantime, please make your plans now to attend the workshop. If you would like to have registration material or simply express interest in attending the 1997 workshop, please notify Amy Bush, ORNL, at 423-576-2395, or [az3@ornl.gov](mailto:az3@ornl.gov).

## DOE Hoisting and Rigging Standard Released

The new DOE Hoisting and Rigging Standard has just been released for use by all DOE activities. The number of the standard is DOE-STD-1090-96. This standard replaces the old DOE *Hoisting and Rigging Manual* that has been in use throughout DOE for years. It also replaces the old DOE standard (NE F 8-6T, *Hoisting and Rigging of Critical Components and Related Equipment*) which was used to supplement the manual for critical lifts and for use in nuclear applications. The new standard combines all the current safety measures applicable to hoisting and rigging at DOE facilities and includes information provided by several national voluntary standards organizations. Some of the current improvements include:

- Full compliance with OSHA and ANSI requirements,
- Expansion of Chapter 6, "Personnel Qualification and Training," to include greater detail and expanded evaluation criteria to allow tailoring to particular site characteristics,
- Labeling of side-by-side good practice, bad practice drawings so the information being conveyed is immediately apparent,
- A comparison of many common element requirements which differ slightly in wording when applied to a specific equipment type (the result is that the most comprehensive and clearest wording has been used), and
- A clearer indication of the notation of a mandatory requirement to meet the intent of the standard. Use of the "active" voice and words such as "ensure that," "check for," and "use only" are intended to indicate a mandatory requirement.

While the DOE Hoisting and Rigging Standard is in itself a "best practices" document, much of its content, such as the OSHA, ANSI/ASME, and Crane Manufacturers Association of America standards, is already mandatory within DOE. In addition, many DOE organizations have, on their own initiative, adopted the standard as mandatory to ensure safe and proper hoisting and rigging operations at their facilities. Copies of the standard may be obtained at a nominal cost from the Office of Scientific and Technical Information (423-576-8401) or from the DOE Technical Standards Program home page at <http://apollo.osti.gov/techstds/techstds.html>.

## OEPA Weekly Federal Register Digest Now Online

Weekly Federal Register digests prepared by the DOE Office of Environmental Policy and Assistance (EH-41) are now available on the Internet at <http://www.eh.doe.gov/oeпа/oeпа.htm>. The Website contains a broad selection of topics, many of which involve proposed or approved revisions to standards, that are related to environmental protection, safety, and health. You can find out the latest about federal regulatory initiatives, view and download over 280 guidance documents and Federal Register notices in portable document format (PDF), and browse over 370 pages of information.

## Use of Internet Continues to Grow

An article appearing in the September 1996 issue of *Mechanical Engineering* reports increasing use of the Internet by mechanical engineers. Dan Deitz, Associate Editor of *Mechanical Engineering*, cites numerous benefits to the profession in an article entitled "Engineering Online." He lists time, quality and cost improvements in the areas of overhead and business relationships, and notes improved interactions with both customers and co-workers. Dedicated home pages are viewed as an ideal mechanism for dissemination of information and project tracking. He states that "engineers are finding new ways to automate discrete tasks, streamline engineering processes, and even have fun in the process." An imbedded article gives an example of how professional societies are also ramping up onto the information highway. ASME International, with its ASMENET home page (<http://www.asme.org>), offers online registration for conferences, discussion groups, member collaborations, and online links to other professional societies and information providers. *Mechanical Engineering* itself is now online (<http://www.memagazine.org>), and even provides weekly updates on developments followed in the magazine.

This article from *Mechanical Engineering* (check out their editorial as well) is indicative of the trend, not only in the engineering profession, but in business, education, government, and other areas as well. The implication for those involved in standards activities is clear: get on board the "cyberspace ship," or get left far, far behind!

## ISO 14000 Continues Its "Path Forward"

As we mentioned in the September 1996 issue of *The Standards Forum*, ISO 14000 is on-line at <http://www.iso14000.org/>. This service is provided by "ISO 14000 Integrated Solutions" (IIS On-Line™) and offers information on standards resources, developments, events, current issues, and education and training activities. One feature includes regular updates from leading professional publications on worldwide industry plans and reactions to ISO 14000. For example, the following is an IIS summary of an article appearing in *Environmental Management Today* (09/96-10/96) Vol. 7, No. 4, P. 7.

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While many large U.S. companies have attained ISO 14000 certification, some small U.S. firms are questioning the purpose of the standards. Although the possibility of incentives has been suggested, there have so far been no specific offerings. The actual standard is voluntary, does not demand public reporting, and does not specify environmental performance except for a commitment of compliance with regulators. Some observers argue that ISO 9000 certification is more valuable, as customers do not require suppliers to hold ISO 14000 certification. Suppliers are, however, expected to hold ISO 9000 certification. Customers of ISO 9000-certified suppliers can expect an improved bottom line; with ISO 14000, companies must implement an environmental management system that is integrated into the business in a way that improves financial and performance results. In support of ISO 14000, Stacy Richards of the Pennsylvania Department of Environmental Protection boasts of the "profit in your pocket" that can be achieved by integrating the standards into the work processes of your business.

## **Codes and Standards and Other Guidance Cited in Regulatory Documents**

The TSPO recently reviewed a copy of NUREG/CR-5973, "Codes and Standards and Other Guidance Cited in Regulatory Documents" (Rev. 3; published August 1996). The report, prepared for the Nuclear Regulatory Commission (NRC), documents the latest results of an evaluation performed in support of NRC activities to update their Standard Review Plan (NUREG-0800). NUREG/CR-5973 contains a listing of industry codes and standards and other government and industry guidance referred to in regulatory documents (i.e., NUREG-0800, NRC's Enforcement Manual, and bulletins, information notices, policy statements, regulatory guides, etc.). The listing identifies the most recent version of the referenced code, standard, or guidance document, and provides a summary of the reference. Copies of this NUREG can be obtained through the U.S. Government Printing Office, Washington, D.C., or the National Technical Information Service, Springfield, Virginia.

## **GC Review of Directives**

If you are involved in the development of a new or revised DOE technical standard or any other type of DOE "directive" (as defined in the Directives Manual, DOE M 251.1-1), the following article should be of interest to you.

In an October 7, 1996, memorandum, Robert Nordhaus, DOE General Counsel, advised all Secretarial Officers of two separate developments — a court decision and a new statute — that will affect the processing of some new or revised DOE directives, including technical standards. The court decision indicates that notice and comment rulemaking under the Administrative Procedure Act is required for policies in DOE directives that adversely affect the substantive rights of non-agency parties such as the employment rights of existing contractor employees. The new statute — the Small Business Regulatory Enforcement Fairness Act of 1996 — requires DOE to notify Congress of the issuance of non-regulatory policies that substantially affect the substantive rights or obligations of non-agency parties such as contractors.

The October 7, 1996, memorandum indicated that the Office of General Counsel will be reviewing new or revised directives, including technical standards, to identify those that require notice and comment rulemaking and/or Congressional notification. For those individuals or organizations involved in writing new or revised DOE technical standards, it is important to coordinate with your assigned program counsel as early in the developmental process as possible to determine whether notice and comment rulemaking or advance Congressional notification is necessary.

If you have any questions on these new requirements for coordinating DOE directives (including technical standards) with GC, contact Jeanette Helfrich, GC-52, at 202-586-4216, [Jeanette.Helfrich@hq.doe.gov](mailto:Jeanette.Helfrich@hq.doe.gov).

## **"Business Week" Article on Strategic Standardization**

The October 21, 1996, edition of *Business Week* contains a special advertising section entitled, "Competition 2000 - Strategic Standardization and International Trade." This special advertising section was developed in conjunction with the U.S. celebration of World Standards Day on October 16, 1996, and contains valuable perspectives from several private sector companies on the value of embracing strategic standardization management practices. The main article in the section, written by R. L. Howie, Jr., vice president of ISS Corporation, discusses current events in the areas of standards development and use as it relates to building or breaking down trade barriers, promoting more cooperation between the federal government and the private sector, and supporting basic infrastructure needs in the areas of education and training. The article is a "must-read" for any DOE or contractor employee involved in the management of a business process, facility, or major program. Check your local library for this edition of *Business Week* or contact "Business Week Subscriber Services" at 800-635-1200 (FAX: 609-426-7500) to order a copy.

## **Graded Application of Quality Assurance to R&D Activities**

The American Society of Mechanical Engineers (ASME) Nuclear Quality Assurance (NQA) Main Committee (MC) is currently reviewing a Research & Development (R&D) Graded Application Guide that is designed to address Quality Assurance (QA) principles and techniques as they apply to the various phases of R&D. In addition to addressing the implementation of QA in R&D, the R&D Guide reflects a basic mandate of Public Law 104-113 (National Technology Transfer and Advancement Act of 1995) as it applies to the application of standards. The new R&D Guide provides a graded approach to the application of QA concepts to R&D. This graded approach directly applies QA standards to a particular R&D activity, as opposed to the former blanket approach that applied all requirements to all aspects of the R&D process. The R&D Application Guide breaks down R&D into four areas, each of which is subjected to an applications discussion: Basic Research, Applied Research, Development Work, and R&D Support Activities. This tailored approach to applying standards should provide DOE programs with the means to meet QA requirements in a more efficient and cost-effective manner.

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The R&D Guide was developed by the Working Group on R&D with members from several of the DOE national laboratories, industry and the DOE. With the completion of the R&D Guide, this working group has been assimilated into an Applications Subcommittee (ASC), directly responsible to the NQA MC. The scope of the ASC is to assist users of the NQA documents by developing guidance for the application of NQA requirements to an R&D program or project. The ASC operates using core resources augmented by experts from the NQA Committee, customers, and

other sources. It will also maintain matrices that compare NQA applications guidance with other standards. A significant activity will be interfacing with key standards bodies and regulatory organizations to maintain compatibility of NQA applications with their requirements and guidance.

Bob Wayland, Technical Standards Program Manager at Sandia National Laboratories, is the secretary for the ASC. Please feel free to contact him if you have any questions or comments: 505-271-7917, [jrwayla@sandia.gov](mailto:jrwayla@sandia.gov).

**The Uneasy Truce Among Standards...** (Continued from page 1)

property--allows market exclusion as a means to enhance innovation by rewarding innovators. Pundits who uncover these explanations for commercial success likely will ponder their seeming conflict with one another.

Standards do raise an array of legal concerns, especially in areas of intellectual property and antitrust law. Their conflict with intellectual property law is not surprising, for no sooner do standards lower the barriers to the marketplace than intellectual property rights come along and raise them. On the other hand, standards should complement antitrust laws and increase competition by allowing market entrants to introduce products into a marketplace that can readily use them. By controlling the process of adopting and enforcing standards, however, unscrupulous competitors can actually use standards to reduce competition.

The role played by standards, antitrust laws, and intellectual property protection has been one of stark contrast, with some forces pulling one way and others in the opposite direction. Standards have thrived despite intellectual property concerns, in part because innovators are willing to explain their developments, and even share them, as long as they can retain some protection. Also, while standards have centralized some markets, standards have also permitted smaller concerns to compete successfully with the giants.

**Patents and Standards: Conflict and Coexistence**

The United States, along with all industrialized countries and most developing countries, has adopted a patent system to encourage inventors to disclose their inventions in exchange for limited rights of exclusivity. Patents cover articles of manufacture, machines, compositions of matter, and processes. One of the fastest growing areas of patent protection involves computer-implemented processes and machines that employ microprocessors or some other computing elements. Some of these patents even cover functional and electronic interfaces.

The United States Patent and Trademark Office grants a patent if it feels the invention has the proper subject matter, i.e., is not an abstract idea, law of nature, or mathematical algorithm, and if the invention is different from and not obvious in view of the "prior art." The "prior art" of an invention includes various publications, patents, and activities that preceded the invention or occurred more than a year before the patent application was filed.

**Patents and Standards-Setting Organizations**

No law prohibits anyone from obtaining a patent on a standard, but most standards-setting organizations have adopted rules to address the problem of patents. For example, before approving a standard proposed by a patent owner, ANSI requires one of the following:

- A disclaimer from the patent owner that it does not hold rights in any invention requiring compliance with the proposed standard
- An assurance of compensation-free licenses for all applicants desiring to use the license to implement the standard; or
- An assurance that a license will be made available to each applicant under reasonable terms and conditions demonstrably free from any unfair discrimination.

A working group entitled POISED 95 (Process for Organization of Internet Standards 95) has suggested a slightly different approach to protect those who are unaware of their company's patent rights. Under that group's proposal, a contributor of technology to a standards-setting organization need only warrant that it does not "reasonably and personally" know of any limits to the contributor's ability to license the technology, and must offer open, reasonable, and nondiscriminatory license terms.

**Risks of Failing to Disclose Patents**

Courts have not allowed patent owners to prosper by surreptitiously promoting a standard over which they have a patent. Those trying to advance a standard must disclose any patent rights or risk losing the ability to enforce their patent rights. The courts use a legal doctrine known as "estoppel" to stop such surreptitious activities. Estoppel prevents parties, including patent owners, from inducing others, either through misleading conduct or inaction when action is expected, to change circumstances and suffer prejudice as a result.

**Conclusion to Article No. 1**

Honesty is the best policy for patents and standards. The two may coexist, but only in an environment of candor. Patent owners who participate in standards-setting organizations must advise those organizations of any patents they have which affect standards under consideration. By the same token, owners of patents that cover informal standards should not wait in the bushes until the industry commits to their technology. In both circumstances, patent owners risk losing their principal asset.

The Uneasy Truce Among Standards... (Continued from Page 14)

## **Article No. 2: "Copyrights and Standards: Conflict and Coexistence"**

Copyrights, like patents, give their owners certain exclusive rights, such as the exclusive rights to make copies, prepare derivative works, and distribute publicly. Unlike patents, however, copyrights arise automatically when the associated work is completed; they do not require an examination process. One problem that arises from this lack of an examination process is that one must sometimes wait until a litigation to determine what, if anything, in a work is subject to copyright protection. This article describes two well-known cases to illustrate this problem in the area of graphical user interfaces (GUIs).

### **Conclusion to Article No. 2**

As this discussion has shown, the courts of the United States are quite sensitive to the role that standards play in the development of industries and markets. Whenever a significant need for standardization appears -- whether in the dictates of hardware, in the nature of computer programs, or in the compatibility of computer or other electronic or manufacturing systems -- the courts are decidedly reluctant to allow copyright ownership to thwart the purposes of standardization.

By the same token, as the need for standards diminishes -- when "another way" is available to a copying defendant -- the courts recognize the vital role that copyright protection plays in industrial and market development, and they allow the intellectual property interests of the copyright owner to overshadow the influence of standards.

It is, indeed, a difficult but necessary balancing act. As additional case law adds to the growing body of precedent, the nature and contours of the balancing test will come into sharper focus, allowing players in industry to predict more accurately the legal effect and risks of their actions.

## **Article No. 3: "Trademarks and Standards: The Tension Mounts"**

This article looks at the third aspect of intellectual property law - trademarks - and analyzes the relationship between the uniformity engendered by the use of standards and the exclusivity provided through the enforcement of trademarks.

### **Conclusion to Article No. 3**

Of the three major parts of intellectual property law -- patents, copyrights, and trademarks -- trademarks conflict the least with the policies behind the use of standards in industry. Indeed, trademarks reinforce the policies behind the use of standards because they allow one to advertise compatibility or to provide certification. But when trademarks or service marks become too common, they may become functional and lose their ability to serve as designations of origin.

## **Article No. 4: "Antitrust Law and Standards: More Conflict?"**

After a brief introduction into antitrust concepts, this article discusses antitrust problems that can arise in setting standards.

### **Conclusion to Article No. 4**

Despite the seemingly procompetitive benefits of standards, individuals and companies can use them anticompetitively. The standards-setting arena contains all the ingredients for antitrust violations--direct competitors in collusion and control over a market by standards. The best way to avoid problems is to ensure fair and open procedures to prevent collusion.

## **Article No. 5:**

The final article will appear in the December edition of the *Open Systems Standards Tracking Report*, and will discuss antitrust problems with enforcing standards and controlling access to standards technology.

## **Roundtables Featured at TSMC 96-2 (Continued from Page 3)**

Recommendations 90-2 and 91-1). However, broader participation in the program is needed, particularly in the area of working with voluntary standards bodies. The main drivers for future TSP activities will continue to be economics (i.e., it is less expensive to support voluntary standards development than to prepare and maintain DOE technical standards), and the continuing emphasis for DOE to demonstrate progress in transitioning to an operations culture based on accepted and proven technical standards. Dr. Ettlinger stressed that DOE needs to be proactive in developing and adopting voluntary standards for its activities, especially for nuclear/chemical operations that are similar to those in private industry.

9. DOE-EE Standards Program - Cyrus Nasser, TSM for the DOE's Office of Energy Efficiency and Renewable Energy (EE), presented a summary of the standards activities in EE. The standards development activities pursued by EE are based on past legislation promoting increased energy efficiency/conservation. However, more recent EE standards

activities are focused on supporting voluntary standards development such as ASHRAE 90.1 and 90.2.

10. TSM Roundtable - This roundtable was led by Dick Black. He noted that issues such as the Price-Anderson Amendments Act (PAAA), PL 104-113, and DNFSB Recommendation 95-2 represented real "opportunities" for the TSP in terms of establishing the need and justifying the existence of (and funding for) the program and the TSM function. There was a consensus from the roundtable discussion that visible upper management support for the program was a key element in securing acceptance of the TSP and, concurrently, the TSM support and funding necessary to fully implement PL 104-113 within DOE. At the conclusion of the session, it was agreed that a memorandum on PL 104-113 and its implementation through the TSP would be prepared for approval by Thomas Grumbly, S-3, and for distribution to the senior DOE line managers.

## Measure Up To Metric

Since the move to metric is well underway and will affect not only measurements in the professional realm, but also the rest of our everyday lives, we thought you would appreciate this brief set of tips and comparisons from the Tennessee Valley Authority (*Inside TVA*, January 10, 1995, used with permission).

### Length and Distance

#### Meter (m)

As long as a yardstick plus 3 " inches

Multiply feet by .3048 to obtain m

Multiply yards by .9144 to obtain m

#### Centimeter (cm)

The approximate width of your small fingernail

Multiply an inch by 2.54 to obtain cm

#### Millimeter (mm)

About the same thickness as a dime

Multiply an inch by 25.4 to obtain mm

#### Kilometer (km)

A little over a half mile

Multiply a mile by 1.6 to obtain km

#### Hectare (ha)

About 2 " football fields would make up a hectare

Multiply an acre by .405 to obtain ha

### Mass or Weight

#### Gram (g)

Visualize a packet of sugar substitute

Multiply an ounce by 28.35 to obtain g

#### Kilogram (kg)

Picture two one-pound boxes of butter, plus 4/5 of one stick

Multiply a pound by .45 to obtain kg

#### Megagram (Mg)

About the same weight as a one-ton piano and a large man

Multiply a ton (2,000 pounds) by .907 to obtain Mg

#### Milliliter (mL or ml)

Scant 1/4 teaspoon of water

Multiply an ounce by 30 to obtain mL

#### Liter (l or L)

A quart carton of milk with 1/4 cup beside it

Multiply a cup by .24 to obtain L

Multiply a pint by .47

Multiply a quart by .95

Multiply a gallon by 3.8

### Temperature

#### Degrees Celsius (°C)

100°C=boiling point

37°C=normal body temperature

35°C=beach weather

20°C=comfortable room temperature

0°C=freezing

Subtract 32 from °F, and divide by 1.8, to obtain °C

"Cancellation of numerous specifications and standards (Mil Specs) has created considerable savings, since these documents no longer require maintenance. Savings differ depending on the complexity and length of the document, but a study by the Logistics Management Institute calculated the annual cost to support a particular specification to be about \$3,000."

— Standards Engineering - The Journal of the Standards Engineering Society, September/October 1996



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